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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,874	10/26/2000	Yoshiaki Umehara	N45-127803M/MI	2977

7590 09/12/2002

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EXAMINER
BURCH, MELODY M

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 09/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/695,874	UMEHARA ET AL.	
	Examiner	Art Unit	
	Melody M. Burch	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-11 and 13-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-11 and 13-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 June 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to because the flange claimed in claim 19 is not clearly labeled. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9, 10, 11 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claims 9-11. The claims include the limitation "said cylinder is singly disposed in the central portion of said one side". The phrase indefinite particularly with regards to claims 10 and 11 which depend from claims 7 and 8, respectively, which claim both the cylinder and the bridge being in the central chamber which Examiner has interpreted as being the "central portion". Additionally, the phrase "said one side" is

unclear since previous claims make reference to the "side of the disc rotor" and "the side of molding the bottom portion". Clarification is required.

Re: claim 19. Claim 19 recites the limitation "the casting" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6, 9, 13, 14, 15, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4194597 to Evans et al. in view of US Patent 4705093 to Ogino and US Patent 5704413 to Takasaki et al. Evans et al. show in figures 1 and 6 a caliper body of a vehicular disc brake, the vehicular disc brake having a pair of frictional pads 20,22 disposed opposite to each other with a disc rotor 24 held therebetween, the caliper body including a cylinder 12 disposed on one side of the disc rotor, a reaction pawl shown in the area of element 13 disposed on the other side of the disc rotor, and a bridge portion 14 for coupling the cylinder and the reaction pawl at the outer peripheral side of the disc rotor, the caliper body 10 comprising: a union hole 23 shown in figure 5 formed at the bottom portion of the cylinder of the caliper body capable of being used as a sprue for molding the caliper body with a base material and a cavity 16 disposed with the union hole, but does not specifically disclose the limitation of the caliper body being

made by a casting method with a base material while the side of molding the bottom portion of the of the cylinder is disposed in a vertically upper part of the cavity and also the side of molding the reaction pawl is disposed in a vertically lower part of the cavity.

Ogino teaches in col. 2 lines 18-21 the use of a gravity casting method to make a caliper body with a base material comprising aluminum or aluminum alloy as taught in col. 2 lines 12-13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of making the caliper body of Evans et al. to have included gravity casting, as taught by Ogino et al., in order to provide a means of facilitating the production of the whole shape of the caliper body.

Takasaki et al. teach in figure 2c the use of a molding method in which a body 1 is molded with a cavity 4 disposed with the a union hole 5 as a sprue while the side of molding a bottom portion of the body having the union hole is disposed in a vertically upper part of the cavity and also the side of molding the other side of the body is disposed in a vertically lower part of the cavity. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the hole 23 of Evans et al., as modified, to have included a union hole serving as a sprue for molding, in view of the teachings of Ogino and Takasaki et al., in order to provide a means of using gravity to assist in the formation of the various portions of the caliper body.

7. Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4194597 to Evans et al. in view of US Patent 4705093 to Ogino and US Patent 5704413 to Takasaki et al. as applied to claim 6 above, and

further in view of JP-1146718. Evans et al. teach the invention substantially as set forth above including the limitation of the side of providing the cylinder being made an action chamber, the side of providing the reaction pawl and the bridge being a reaction chamber, and a thick-walled connection shown in figure 7 in the area of the arrow associated with element number 10 between the cylinder and the bridge is made a central chamber, but does not include the specific volume ratios. JP-1146718 teaches in lines 3-5 and in the last line of the abstract the practice of using optimal volume ratios to achieve little to no sink marks during the cooling process of molten material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the volumes of the various sections of the caliper body of Evans et al., as modified, to have been proportioned to achieve optimal volume ratios, in view of the teachings of JP-1146718, in order to provide a means of minimizing shrinkage and sink marks.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4194597 to Evans et al. in view of US Patent 4705093 to Ogino and US Patent 5704413 to Takasaki et al. as applied to claim 6 above, and further in view of WIPO 98/27353 (using US Patent 6298954 to Weiler et al. as an English equivalent). WIPO 98/27353 teaches in col. 4 lines 13-16 the use of an insert core being incorporated in the casting of a brake caliper body to enable the base material to be injected in symmetry. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the casting procedure of Evans et al., as modified,

to have included an insert core, as taught by Weiler et al., in order to provide a means of creating symmetrical caliper chambers.

9. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4194597 to Evans et al. in view of US Patent 4705093 to Ogino and US Patent 5704413 to Takasaki et al. in view of JP-1146718 as applied to claim 7 above, and further in view of WIPO 98/27353 (using US Patent 6298954 to Weiler et al. as an English equivalent). WIPO 98/27353 teaches in col. 4 lines 13-16 the use of an insert core being incorporated in the casting of a brake caliper body to enable the base material to be injected in symmetry. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the casting procedure of Evans et al., as modified, to have included an insert core, as taught by Weiler et al., in order to provide a means of creating symmetrical caliper chambers and to inherently cause the base material to run toward the bridge and toward the reaction pawl by virtue of the contact with the peripheral surface of the core in combination with the downward force of gravity.

Allowable Subject Matter

10. Claim 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 9/6/02
mmb
September 6, 2002

M.C. G 9/6/2002
MATTHEW C. GRAHAM
PRIMARY EXAMINER
GROUP 310